WASHINGTON-For comedian-cum-politician Al Franken, wasting energy is no laughing matter.

That conviction prompted the rookie Minnesota Democratic senator to pair up with a Republican in July to introduce legislation designed to put renewable energy at the forefront for heating and cooling the nation's homes, businesses and public buildings more efficiently.

Sen. Kit Bond, R-Mo., serving out his last term in the U.S. Senate, and Franken, serving in his first term, now have to convince their fellow legislators to support what they have named the Thermal Renewable Energy and Efficiency Act. Neither of them is kidding around.

Much federal legislation focuses on cleaner and greener electricity. But the idea behind this bill is to offer a range of incentives to increase the use of district energy and cogeneration, also referred to as combined heat and power. These localized, low-carbon technologies can capitalize on renewable sources such as biomass, geothermal and landfill gas that are plentiful in specific geographic regions. They also maximize energy by capturing waste heat and recycling it into a productive heating or cooling source.

Rep. Betty McCollum, D-Minn., introduced companion legislation in the House in late July. Both bills count on a grant program, a bond financing tool and an existing tax credit program for renewable energy as bait to encourage change.

"America's energy policy is broken," said McCollum, who represents a solidly Democratic district that includes St. Paul and its suburbs. "Congress and the Department of Energy need to wake up and start investing in this proven technology that will create clean energy jobs and reduce energy independence."

Big Opportunity

Heating and cooling buildings, warming water and manufacturing various products sucks up close to one-third of the nation's energy supply, and too much of it inefficiently. The lack of a coherent and comprehensive energy policy has stood in the way a wiser use of energy.

It has prompted legislators from both chambers to offer a series of specialized and somewhat wonky bills that are geared to reduce greenhouse gas emissions, advance renewable power sources and take advantage of technologies that aren't pie-in-the-sky.

For instance, Rep. Jay Inslee, D-Wash, introduced feed-in tariff legislation this week, modeled after a successful program in Germany. The idea is to encourage a mammoth boost in solar and wind power by offering price guarantees to consumers and businesses nationwide that generate electricity via renewable sources. Inslee is also an original co-sponsor of the Franken-Bond-McCollum bill.

St. Paul, a Beacon of District Energy

"The economic and environmental costs of the BP Gulf disaster are yet to be tallied, and the hurdles to comprehensive climate legislation are daunting," Rob Thornton, president of the International District Energy Association (IDEA), wrote in a July letter to Senate leaders. "That's why we must act now to implement policies that reduce fossil fuel consumption using proven clean technologies like district energy and combined heat and power."

District energy, combined heat and power, and waste heat recovery technologies aren't exactly catchy, tip-of-the-tongue names so they are often relegated to forgotten stepchild status in the debate about climate change.

Bond said Franken's bill appealed to him because Missouri has an abundance of biomass that could power the Show-Me State's universities, hospitals and data centers. Both Franken and McCollum cited what they called the best-kept secret in their home state known for its subzero winter temperatures-District Energy St. Paul. It touts itself as the largest, most successful, biomass-fueled hot water district heating system in North America.

St. Paul Mayor George Latimer city partnered with state officials, the U.S. Department of Energy and downtown businesses to launch the innovative public-private venture in 1983 as a response to the energy crisis of the 1970s. Using technology developed in Europe, the collaborators sought energy efficiency, fuel flexibility and stable rates.

What began as solely a coal-fired heating system advanced to a heating and cooling system in 1993. District Energy became a green energy service provider in 2003 when it built a combined heat and power plant that is mostly fueled by urban wood waste. Today, it provides 65 megawatts of thermal energy to District Energy and 25 megawatts of electricity to the local utility, Xcel Energy.

That 65 megawatts is enough power to heat more than 185 buildings and 300 single-family homes (31.1 million square feet) and cool more than 95 buildings (18.8 million square feet) in downtown Saint Paul and adjacent areas. The cooling system includes two water storage tanks that hold 6.5 million gallons of water chilled at night, during off-peak electrical hours, that consumers use during the day. An added bonus is that records indicate that downtown St. Paul customers pay less for their heating bills than they did in 1983.

Though statistics from IDEA show that about 2,900 district energy systems and 3,500 cogeneration systems exist today, not all of them are powered by renewable energy.

Sustainable district energy systems are catching on in places such as the Northwest, according to news reports. For example, the century-old Seattle Steam will begin providing renewable energy to downtown businesses now that it has invested in a wood waste boiler.

As well, Portland, Ore., has led the way in cutting red tape at the local level so district energy projects are more affordable. One proposed neighborhood-scale project would deploy ground-source heat to heat and cool a school campus.

Key Incentives in the Bill

The Franken-Bond-McCollum energy measure is designed to capitalize on these kinds of energy opportunities by using financial mechanisms to expand the scope of three incentives: energy production tax credits; tax-exempt bonds (to cover capital costs); and grants (for energy sustainability and efficiency via the Department of Energy). Current production tax credits encourage the generation of electricity with solar, wind and other renewable sources but don't include renewable thermal energy.

The incentive package will likely be tweaked as the bill wends it way through various committees, said Irene Lin, McCollum's legislative assistant for energy.

In addition to IDEA, the bill has been endorsed by organizations such as the Sierra Club, the Izaak Walton League of Minnesota, the Biomass Thermal Energy Council, Fresh Energy and the American Council for an Energy Efficient Economy.

Fresh Energy is a St. Paul-based nonprofit dedicated to leading the transition to clean and efficient energy.

"Much policy attention is rightly focused on energy in the electricity and transportation sectors," Fresh Energy's executive director Michael Noble wrote in a statement of support. "It's timely that this bill seeks to build a clean energy economy for thermal energy-the energy we use to keep our buildings comfortable and provide heat to industry."

Reporter Elizabeth McGowan writes about a mix of energy and environment issues from her adopted home of Washington, D.C.